

REMARKS

INTRODUCTION:

In accordance with the foregoing, claim 7 has been canceled, and claims 1, 15, 24, 27, 28 and 32 have been amended. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1, 4-6, 8-11, 13-15, 17-22, 24-28, 30-32, and 34-35 are pending and under consideration. Reconsideration is respectfully requested.

ENTRY OF RESPONSE UNDER 37 C.F.R. §1.116:

Applicants request entry of this Rule 116 Response and Request for Reconsideration because:

(a) at least one of the rejected claims has been canceled, thereby at least reducing the issues for appeal;

(b) it is believed that the amendments of claims 1, 15, 24, 27, 28, and 32 put this application into condition for allowance;

(c) the amendments were not earlier presented because the Applicants believed in good faith that the cited prior art did not disclose the present invention as previously claimed;

(d) the amendments of claims 1, 15, 24, 27, 28, and 32 should not entail any further search by the Examiner since no new features are being added or no new issues are being raised.

The Manual of Patent Examining Procedures sets forth in §714.12 that "[a]ny amendment that would place the case either in condition for allowance or in better form for appeal may be entered." (Underlining added for emphasis) Moreover, §714.13 sets forth that "[t]he Proposed Amendment should be given sufficient consideration to determine whether the claims are in condition for allowance and/or whether the issues on appeal are simplified." The Manual of Patent Examining Procedures further articulates that the reason for any non-entry should be explained expressly in the Advisory Action.

REJECTION UNDER 35 U.S.C. §112:

In the Office Action, at page 3, claims 1, 4-11, 13-15, 17-22, 24-28, 30-32 and 34-35 were rejected under 35 U.S.C. §112, first paragraph, for the reasons set forth therein. This rejection is traversed and reconsideration is requested.

The Examiner submits that the specification does not support exclusion of tetrahydrofuran, propylene carbonate or ethylene carbonate. However, it is respectfully submitted that the court, in Ex Parte Williams and Neal, 39 USPQ 125 (1938) at pages 126-127, held that a negative expression in a chemical claim, while expressed in terms not found in the original disclosure is not objectionable as eliminating from scope certain materials which may possibly have been included in the original disclosure since the limitation has a narrowing effect rather than a broadening one. Thus, the court held that such a limitation was permissible.

However, since said limitation has been cancelled, it is respectfully submitted that the Examiner's concern about the exclusion of the named organic solvents is now moot and that claims 1, 4-11, 13-15, 17-22, 24-28, 30-32 and 34-35 are allowable under 35 U.S.C. §112, first paragraph.

REJECTION UNDER 35 U.S.C. §102

In the Office Action, at pages 4-5, claims 1, 4-5, 9-11, 14, 15, 17-22 and 24-27 were rejected under 35 U.S.C. §102(e) as being anticipated by Geronov et al. (USPN 6,322,293; hereafter, Geronov). This rejection is traversed and reconsideration is requested.

The limitations of claim 7 have been incorporated into amended independent claims 1, 15, 24, 27, 28, and 32. Claim 7 has been cancelled without prejudice or disclaimer. Thus, independent claims 1, 15, 24, 27, 28 and 32 utilize polyvinyl pyrrolidone as the binder, which is not taught or suggested by Geronov.

In addition, Geronov teaches that it is necessary to use water in the electrolyte (see independent claims 1, 19, 20, 21, 22, 23, and 28) of the electrochemical cell to enhance cycle life, which is not recited in the specification of the present application. Thus, Geronov teaches away from the present invention with respect to the electrolyte.

Thus, it is respectfully submitted that amended independent claims 1, 15, 24, 27, 28 and 32 are not anticipated under 35 U.S.C. §102(e) by Geronov et al. (USPN 6,322,293). Since claims 4-5, 9-11, 14, 17-22 and 25-26 depend from amended independent claims 1, 15 and 24, respectively, dependent claims 4-5, 9-11, 14, 17-22 and 25-26 are submitted to be not anticipated under 35 U.S.C. §102(e) by Geronov et al. (USPN 6,322,293) for at least the reasons that amended independent claims 1, 15 and 24 are submitted to be not anticipated under 35 U.S.C. §102(e) by Geronov et al. (USPN 6,322,293).

REJECTION UNDER 35 U.S.C. §103

In the Office Action, at pages 5-7, claims 1, 4, 6, 9-11, 14-15, 17-22, 24-27 and 28, 30-32 and 34-35 were rejected under 35 U.S.C. §103(a) as being unpatentable over Nakagiri et al. (USPN 6,576,370; hereafter, Nakagiri). The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and reconsideration is requested.

Independent composition claims 1, 24 and 27 describing a positive active material composition and the independent lithium-sulfur battery claim (claim 15) have been amended to recite that the binder comprises polyvinyl pyrrolidone and the organic mixing solvent comprises isopropyl alcohol. Claim 7 has been cancelled without prejudice or disclaimer. Independent method claims 28 and 32 have also been amended to recite that the binder comprises polyvinyl pyrrolidone and the organic mixing solvent comprises isopropyl alcohol.

As noted by the Examiner (pages 9-10 of the Office Action), although Nakagiri teaches using a polyvinyl pyrrolidone binder, Nakagiri does not expressly disclose mixing the binder with isopropyl alcohol. Although, on page 10 of the Office Action, the Examiner relies on USPN 6,488,721 (Carlson) to suggest mixing the binder with isopropyl alcohol in the cathodic mixture, it is respectfully submitted that USPN 6,488,721 **teaches away** from using isopropyl alcohol without using water, as in the present invention, because USPN 6,488,721 teaches coating a cathode with "water or a blend of water with an alcohol solvent, such as isopropyl alcohol or ethyl alcohol" since the materials "are most compatible with a water-based, highly polar liquid carrier medium" (col. 27, lines 4-7).

Thus, amended independent claims 1, 15, 24, 27, 28 and 32 are submitted to be allowable under 35 U.S.C. §103(a) and to be patentable over Nakagiri et al. (USPN 6,576,370). Since claims 4, 6, 9-11, 14, 17-22, 25-26, 30-31 and 34-35 depend from amended independent

claims 1, 15, 24, 28 and 32, respectively, dependent claims 4, 6, 9-11, 14, 17-22, 25-26, 30-31 and 34-35 are submitted to be allowable under 35 U.S.C. §103(a) and to be patentable over Nakagiri et al. (USPN 6,576,370) for at least the reasons that independent claims 1, 15, 24, 28 and 32 are submitted to be allowable under 35 U.S.C. §103(a) and to be patentable over Nakagiri et al. (USPN 6,576,370).

CONCLUSION:

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot, and further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited. At a minimum, this Amendment should be entered at least for purposes of Appeal as it either clarifies and/or narrows the issues for consideration by the Board.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited and possibly concluded by the Examiner contacting the undersigned attorney for a telephone interview to discuss any such remaining issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: July 1, 2004

By: Darleen J. Stockley
Darleen J. Stockley
Registration No. 34,257

1201 New York Avenue, N.W.
Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501